



DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE (IS 2386 (Part 1) 1963 (RA 2007))

Lab ID : CP-RW-2018-04-16-16 Date: 19-04-18
Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address : Yelahanka Sub Division, BBMP, Bangalore.
Project Name : Drilling of borewell and providing pipe line in Yelahanka old town area and village area in ward No.:02
Agency : EE(YNK.D)E-PMT-18/W.O/000132 /2017-18
Customer Reference : Sri.Shadayan No.:190,EWS 2nd Phase Yelahanka new town, Bangalore-64
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 16-04-18
Sample ID No : 2018-04-16-16/01
Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test : 16-04-18

Result:

Index	Percentage of Flakiness and Elongation Index	Specified limits as per MORTH specification table 400-12
Flakiness Index	8.9%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	10.5%	
Combined Flakiness and Elongation Index for WMM	19.4%	

Note:-

The results pertain to the samples received and tested.

All information Furnished by Customer/ Representative

Any correction in the report will make this report invalid.

This report without prior written approval should not be reproduced or published in full or part.

Samples will be disposed after 90 days from the date of issue of test certificate



FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Page 1/1
End of Report

TEST REPORT OF AGGREGATE IMPACT VALUE
IS: 2386 Part IV

Lab ID : CP-RW-2018-04-16-16 Date: 19-04-18

Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

Address : Yelahanka Sub Division, BBMP, Bangalore.

Project Name : Drilling of borewell and providing pipe line in Yelahanka old town area and village area in ward No.:02

Agency : EE(YNK.D)E-PMT-18/W.O/000132 /2017-18

Customer Reference : Sri.Shadayan No.:190,EWS 2nd Phase Yelahanka new town, Bangalore-64

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 16-04-18

Sample ID No : 2018-04-16-16/01

Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)

Date of test : 16-04-18

SLNo	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	311.2	311.0
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	63.7	65.2
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	247.1	245.2
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.4	0.6
5	Aggregate impact value	(B/A)*100	20.5	21.0
6	Aggregate impact value (Mean of two tests)	Percentage	20.7	

Note:-

The results pertain to the samples received and tested.

All information Furnished by Customer/ Representative

Any correction in the report will make this report invalid.

This report without prior written approval should not be reproduced or published in full or part.

Samples will be disposed after 90 days from the date of issue of test certificate



FOR CIVIL Pro.
R. KARTHIK RECHAN
Authorized Signatory
Quality Manager

TEST RESULTS OF GRADATION FOR WMM

Lab ID : CP-RW-2018-04-16-16 Date: 19-04-18
Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address : Yelahanka Sub Division, BBMP, Bangalore.
Project Name : Drilling of borewell and providing pipe line in Yelahanka old town area and village area in ward No.:02
Agency : EE(YNK.D)E-PMT-18/W.O/000132 /2017-18
Customer Reference : Sri.Shadayan No.:190,EWS 2nd Phase Yelahanka new town, Bangalore-64
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 16-04-18
Sample ID No : 2018-04-16-16/01
Type of Mix : WMM (Wet Mix Macadam)
Date of test : 16-04-18
Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	341	341	3.1	96.9	95-100
22.4	2311	2652	24.1	75.9	60-80
11.2	2259	4911	44.6	55.4	40-60
4.75	2315	7226	65.7	34.3	25-40
2.36	1725	8951	81.4	18.6	15-30
0.6	648	9599	87.3	12.7	8-22
0.075	1285	10884	98.9	1.1	0-5

Note:-

The results pertain to the samples received and tested.

All information Furnished by Customer/ Representative

Any correction in the report will make this report invalid.

This report without prior written approval should not be reproduced or published in full or part.

Samples will be disposed after 90 days from the date of issue of test certificate



FOR CIVIL Pro.
R. KARTHIK RECHAN
Authorized Signatory
Quality Manager

TEST REPORT OF PRECAST COVER SLAB

Date: 07-04-18

Lab ID : CP-2018-04-04
Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address : Yelahanka Sub Division, BBMP, Bangalore.
Project Name : Drilling of borewell and providing pipe line in Yelahanka old town area and village area in ward No.:02
Agency : Sri.Shadayan No.:190,EWS, 2nd Phase Yelahanka new town, Bangalore-64
Customer's Reference : EE(YNK.D)E-PMT-18/W.O/000132 /2017-18
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 04-04-18
Sample ID No : 2018-04-04-04 /04
Sample Type /Size : Precast Cover Slab
Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete
Date of test : 04/04/2018

SL No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm ²)	(N/mm ²)	(N/mm ²)
1	Cover Slab-1	75.51	100.48	1.116	4477	80.9	18.1	16.8	21.0
2	Cover Slab-2	75.49	100.52	1.122	4475	82.3	18.4	17.1	21.4
3	Cover Slab-3	75.50	100.51	1.118	4476	81.5	18.2	16.9	21.2

Note:

The results pertain to the samples received and tested.
All information furnished by the Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 90 days from the date of issue of test certificate



FOR CIVIL Pro.

R. Karthik Rechan
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Format No: CP/TF/01

TEST REPORT ON COARSE AGGREGATES

Date: 07-04-18

Lab ID : CP-2018-04-04-04
 Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
 Address : Yelahanka Sub Division, BBMP, Bangalore.
 Project Name : Drilling of borewell and providing pipe line in Yelahanka old town area and village area in ward No.:02
 Agency : Sri.Shadayan No.:190,EWS, 2nd Phase Yelahanka new town, Bangalore-64
 Customer's Reference : EE(YNK.D)E-PMT-18/W.O/000132 /2017-18
 Source of Sample : Sample supplied by Agency
 Sample condition : Satisfactory
 Date of Receipt : 04-04-18
 Sample ID No : 2018-04-04-04 /02(a)
 Sample Type : 40mm down size coarse aggregate
 Reference to BIS codes : IS: 383:2016 (Specification for Coarse and fine Aggregates)
 IS: 2386 :1963(Part - 1,3,4) RA2011
 IS 2386 Part 1: Particle Size and Shape
 IS 2386 Part 3: Specific gravity, Density, Voids, Water Absorption
 IS 2386 Part 4: Mechanical Properties
 Date of test : 04-04-18

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	321	321	2.1	97.9	90-100
3	20 mm	5663	5984	39.9	60.1	30-70
4	10 mm	4536	10520	70.1	29.9	10-35
5	4.75 mm	4153	14673	97.8	2.2	0-5
6	Pan	327	15000	100.0	0	---

Page 1/2



M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL
 GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |



Format No: CP/TF/01

TEST REPORT ON COARSE AGGREGATES

Lab ID : CP-2018-04-04-04
Sample ID No : 2018-04-04-04 /02(a)

Date: 07-04-18

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.6	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.8	
3	Specific Gravity	2.67	—
4	Bulk Density(Loose) (Kg/l)	1.51	—
5	Bulk Density(Compacted) (Kg/l)	1.53	—
6	Water Absorption(%)	0.24	—

Note:

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

Any correction in the report will make this report invalid

This report without prior written approval should not be reproduced or published in full or part.

Samples will be disposed after 90 days from the date of issue of test certificate

AE-2
2



FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Page 2/2

****End of Report****



Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : CP-2018-04-04-04 Date: 09-04-18
Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address : Yelahanka Sub Division, BBMP, Bangalore.
Project Name : Drilling of borewell and providing pipe line in Yelahanka old town area and village area in ward No. 02
Agency : Sri Shadayan No. 190, EWS, 2nd Phase Yelahanka new town, Bangalore-64
Customer's Reference : EE(YNK.D)E-PMT-18/W O/000132 /2017-18
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 04-04-18
Sample ID No : 2018-04-04-04 /01
Sample Type : Birla Super 53grade
Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 (Part 1,2,3,4,5, 6,11):1988
IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4
IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5
IS 4031 Part 3, Determination of Soundness, Clause 5, Clause 6
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5
IS 4031 Part 11, DETERMINATION OF DENSITY , Clause 6

Date of test : 06-04-18

Environmental Conditions during test : Temperature: 26°C
Humidity: 72%

SLNo.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.65	-
2	Fineness by Air permeability method (m ² /kg.Min)	289.5	225m ² /kg. Min
3	Density (gm/cc)	3.11	-
4	Standard Consistency (%)	28.0%	Not specified
5	Initial Setting time	175 minutes	Not less than 30 minutes
6	Final Setting time	270 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1mm	Not more than 10 mm

Note:

The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 90 days from the date of issue of test certificate



FOR CIVIL PRO.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Page 1/1

****End of Report****



Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : CP-2018-04-04-04 Date: 04-05-18
Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address : Yelahanka Sub Division, BBMP, Bangalore.
Project Name : Drilling of borewell and providing pipe line in Yelahanka old town area and village area in ward No.:02
Agency : Sri.Shadayan No.:190,EWS, 2nd Phase Yelahanka new town, Bangalore-64
Customer's Reference : EE(YNK.D)E-PMT-18/W.O/000132 /2017-18
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 04-04-18
Sample ID No : 2018-04-04-04 /01
Sample Type : Birla Super 53grade
Reference to BIS codes : IS 12269 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test : 06-04-18

Environmental Conditions during test : Temperature: 26°C
Humidity: 72%

Compressive Strength			
SL.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	27.5N/mm ²	Not less than 27 N/mm ²
2	7 Days	39.5N/mm ²	Not less than 37 N/mm ²
3	28 Days	57.5N/mm ²	Not less than 53 N/mm ²

Note:

The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 90 days from the date of issue of test certificate



FOR CIVIL Pro.
R. KARTHIK RECHAN
Authorized Signatory
Quality Manager



Format No: CP/TF/01

TEST REPORT ON COARSE AGGREGATES

Lab ID : CP-2018-04-04 **Date:** 07-04-18
Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address : Yelahanka Sub Division, BBMP, Bangalore.
Project Name : Drilling of borewell and providing pipe line in Yelahanka old town area and village area in ward No.:02
Agency : Sri.Shadayan No.:190,EWS, 2nd Phase Yelahanka new town, Bangalore-64
Customer Reference : EE(YNK.D)E-PMT-18/W.O/000132 /2017-18
Source of Sample : Sample supplied by Agency
Sample Condition : Satisfactory
Date of Receipt : 04-04-18
Sample ID No : 2018-04-04-04 /02(b)
Sample Type/ Size : 20mm down size coarse aggregate
Reference to BIS codes : IS: 383:2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1,3,4) RA2011
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids, Water Absorption
IS 2386 Part 4: Mechanical Properties
Date of test : 04-04-18

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	254	254	5.1	94.9	90-100
3	10 mm	2435	2689	53.8	46.2	25-55
4	4.75 mm	1989	4678	93.6	6.4	0-10
5	Pan	322	5000	100	0	-

Page 1/2



Format No: CP/TF/01

TEST REPORT ON COARSE AGGREGATES

Lab ID

: CP-2018-04-04-04

Date: 07-04-18

Sample ID No

: 2018-04-04-04 /02(b)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.5	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.8	
3	Specific Gravity	2.66	—
4	Bulk Density(Loose) (Kg/l)	1.46	—
5	Bulk Density(Compacted) (Kg/l)	1.49	—
6	Water Absorption(%)	0.23	—
7	Aggregate crushing Value(%)	22.5	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	21.7	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

Note:

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

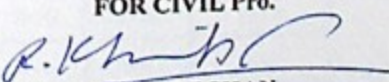
Any correction in the report will make this report invalid

This report without prior written approval should not be reproduced or published in full or part.

Samples will be disposed after 90 days from the date of issue of test certificate



FOR CIVIL Pro.


R KARTHIK RECHAN
Authorized Signature
Quality Manager

Page 2/2

End of Report



TEST REPORT OF FINE AGGREGATE

Lab ID

: CP-2018-04-04-04

Date: 07-04-18

Sample ID No

: 2018-04-04-04 /03

PHYSICAL PROPERTIES

SL.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.3	-
2	Specific Gravity	2.56	-
3	Material finer than 75 micron(%)	8.1	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

Note:

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

Any correction in the report will make this report invalid

This report without prior written approval should not be reproduced or published in full or part.

Samples will be disposed after 90 days from the date of issue of test certificate

AE-2
H

FOR CIVIL Pro.

R. Karthik Rechan
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Page 2/2

*****End of Report*****